

Remarks

This Application has been carefully reviewed in light of the Office Action mailed January 20, 2004. Although Applicant believes all claims are allowable without amendment, to expedite issuance of this Application Applicant has made clarifying amendments to Claims 1-21. None of these changes are considered narrowing or necessary for patentability. Applicant has also added Claims 22-24. Applicant respectfully requests reconsideration and allowance of all pending claims.

Rejections under 35 U.S.C. § 101

The Examiner rejects Claims 1-21 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Applicants respectfully disagree.

The patent laws define patentable subject matter as "any new and useful process, machine, manufacture or composition of matter, or any new and useful improvement thereto." *See* 35 U.S.C. § 101. When an abstract idea is reduced to a practical application, the abstract idea no longer stands alone if the practical application of the abstract idea produces a useful, concrete, and tangible result. This then satisfies the requirements of 35 U.S.C. § 101. *See In re Alappat*, 33 F.3d 1526, 1544, 31 U.S.P.Q. 2d 1545, 1557 (Fed. Cir. 1994); *see also State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373, 47 U.S.P.Q. 2d 1596, 1601-02 (Fed. Cir. 1998). While an abstract idea by itself may not satisfy the requirements of 35 U.S.C. § 101, an abstract idea when practically applied to produce a useful, concrete, and tangible result satisfies 35 U.S.C. § 101. *See AT&T Corp. v. Excel Comm. Inc.*, 172 F.3d 1352, 1357, 50 U.S.P.Q. 1447, 1452 (Fed. Cir. 1999) (stating that as technology progressed, the CCPA overturned some of the earlier limiting principles regarding 35 U.S.C. § 101 and announced more expansive principles formulated with computer technology in mind); *see also In re Musgrave*, 431 F.2d 882, 167 U.S.P.Q. 280 (CCPA 1970) (cited by the Federal Circuit in *AT&T Corp.*, 172 F.3d at 1356). Thus, producing a useful, concrete, and tangible result is the key to patentability according to *State Street* and other applicable case law.

"Only when the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under 35 U.S.C. 101." M.P.E.P. § 2106. Indeed, a method or process remains statutory even if some or all of the steps therein can be performed

in the human mind, with the aid of the human mind, or because it may be necessary for one performing the method or process to think. *See In re Musgrave*, 431 F.2d at 893, 167 U.S.P.Q. at 289. As stated by the Federal Circuit in *State Street* and as explicitly confirmed in the M.P.E.P., "[T]ransformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete, and tangible result' -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." *State Street*, 149 F.3d at 1373, 47 U.S.P.Q. 2d at 1601-02; M.P.E.P. § 2106.

Although Applicant believes all pending claims are allowable without amendment, Applicant has amended independent Claims 1, 7, 13, and 19-21 to clarify that Applicant's claims recite computer-implemented methods, systems, and software and are directed to patentable subject matter. For at least these reasons, Applicants respectfully request reconsideration and allowance of independent Claims 1, 7, 13, and 19-21, together with all claims that depend on these claims.

Rejections under 35 U.S.C. § 112

The Examiner rejects Claims 1-21 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants respectfully submit that the claims are sufficiently definite to satisfy 35 U.S.C. § 112, second paragraph.

Applicant respectfully disagrees that the phrase "the cumulative demand value for a time window representing a cumulative demand for at least one product over the time window and all previous time windows" recited in Claims 1, 7, 13, and 19-21 is unclear. Applicant respectfully submits that the subject phrase, both on its face and in light of the specification, provides the requisite degree of particularity and definiteness necessary to apprise those skilled in the art what Applicant regards as his invention. *See* M.P.E.P. § 2173.02. Moreover, Applicant's specification provides that the cumulative demand value for a time window may represent a "running total" of the predicted demand at a particular point within a planning horizon. *See e.g.*, Page 13, Lines 5-15. That is, the cumulative demand

value for a time window represents the sum of the demand for that time window and the demand for all earlier time windows within the planning horizon. The amendments made to the recited phrase further clarify its meaning. Applicant respectfully submits that the claims are sufficiently definite to satisfy 35 U.S.C. § 112, second paragraph.

Applicant also respectfully disagrees that the phrase "the cumulative production value for a time window representing a cumulative quantity of the product that can be manufactured over the time window and all previous time windows" recited in Claims 1, 7, 13, and 19-21 is unclear. Applicant respectfully submits that the subject phrase, both in its face and in light of the specification, provides the requisite degree of particularity and definiteness necessary to apprise those skilled in the art what Applicant regards as his invention. *See* M.P.E.P. § 2173.02. Moreover, Applicant's specification provides that the forecasted production value for a time window may represent a "running total" of the predicted quantity of product produced at a particular point within a planning horizon. *See e.g.*, Page 13, Lines 16-24. That is, the cumulative production value for a time window represents the sum of the quantity of the product produced during that time window and the quantity of product produced for all earlier time windows within the planning horizon. The amendments made to the recited phrase further clarify its meaning. Applicant respectfully submits that the claims are sufficiently definite to satisfy 35 U.S.C. § 112, second paragraph.

Applicant also respectfully disagrees that the phrase "lean buffer stock" recited in Claims 1, 7, 13, and 19-21 is unclear. Applicant respectfully submits that the subject phrase, both on its face and in light of the specification, provides the requisite degree of particularity and definiteness necessary to apprise those skilled in the art what Applicant regards as his invention. *See* M.P.E.P. § 2173.02. Moreover, Applicant's specification provides that the lean buffer stock may be the amount of product that protects the manufacturer from customer demand spikes during one or more planning horizons. *See e.g.*, Page 9, Lines 28-29. The amendments made to the recited phrase further clarify its meaning. Applicant respectfully submits that the claims are sufficiently definite to satisfy 35 U.S.C. § 112, second paragraph.

Finally, Applicant respectfully disagrees that the phrase "first planning horizon" recited in Claim 5 is unclear. However, Applicant has made a clarifying amendment to

Claim 5. This amendment does not narrow the scope of the claim, but does address the Examiner's rejection. Applicant respectfully submits that Claim 5 is sufficiently definite to satisfy 35 U.S.C. § 112, second paragraph

For at least these reasons, Applicant respectfully requests reconsideration and allowance of Claims 1-21.

Rejections under 35 U.S.C. § 102

The Examiner rejects Claims 1-18 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 6,341,271 B1 to Salvo et al. ("*Salvo*"). Applicant respectfully disagrees.

Salvo discloses a system for monitoring and determining the real-time current inventory status of a manufacturing site. *See e.g.*, Abstract; *see also* Column 3, Lines 42-48. The real-time current inventory status is determined by monitoring one or more storage facilities, warehouses, transport vehicles, shipping information, and, among other things, pricing information. *See e.g.*, Figure 1. According to *Salvo*, plant management, customer service centers, and vendors may use the analyzed information generated by the inventory management system to alter schedules and predict future inventory usage. *See e.g.*, Column 7, Line 23 – Column 8, Line 60. The analyzed information provides these entities with statistically based recommendations for inventory decisions, manufacturing schedules, and other manufacturing related needs. *See e.g.*, Column 7, Line 64 – Column 8, Line 4.

However, *Salvo*, whether considered alone or in combination with knowledge generally available to those having ordinary skill in the art at the time of invention, fails to disclose, teach, or suggest various limitations recited in Applicants' claims. Applicants discuss independent Claim 1, as an example.

For example, nowhere does *Salvo* contemplate "using one or more processing units, determining" any value for one or more "future time windows within a future planning horizon" as recited in Claim 1 as amended. To the extent that *Salvo* mentions determining a value for a future event, this discussion is limited to plant management, a customer, a service center, or a vendor - that is, persons rather than computer systems - using the current real-

time information to alter manufacturing schedules for the site. Thus, *Salvo* clearly fails to disclose, teach, or suggest at least the following limitations recited in Claim 1 as amended:

- ***using the one or more processing units, determining a cumulative forecasted demand value for each of a plurality of future time windows within a future planning horizon***, the cumulative forecasted demand value for a particular future time window representing a cumulative forecasted demand for at least one product over the particular future time window and all earlier future time windows in the future planning horizon;
- ***using the one or more processing units, determining a cumulative forecasted production value for each of the plurality of future time windows in the future planning horizon***, the cumulative forecasted production value for a particular future time window representing a cumulative forecasted quantity of the product that can be manufactured over the particular future time window and all earlier future time windows in the future planning horizon;
- ***using the one or more processing units, determining an estimated lean buffer stock value using the cumulative forecasted demand values and the cumulative forecasted production values for the plurality of future time windows in the future planning horizon***, the estimated lean buffer stock value representing an estimated quantity of the product to use as a lean buffer stock for the future planning horizon;

As another example, *Salvo* fails to disclose, teach, or suggest “determining an estimated lean buffer stock value using the cumulative forecasted demand values and the cumulative forecasted production values for the plurality of future time windows in the future planning horizon,” where the estimated lean buffer stock value represents “an estimated quantity of the product to use as a lean buffer stock for the future planning horizon” as recited in Claim 1 as amended. To the extent that *Salvo* mentions determining a value that represents inventory, this discussion is limited to determining a *real-time* (i.e., current) inventory status for the manufacturing site based on the actual inventory on-hand and currently en-route to the manufacturing site. *See e.g.*, Abstract; *see also* Figure 1 and Column 3, Lines 42-48. Nowhere does *Salvo* disclose, teach, or suggest an “estimated lean buffer stock value representing an estimated quantity of the product to use as a lean buffer stock for the future planning horizon,” much less “determining a cumulative forecasted demand value for each of a plurality of future time windows within a future planning horizon,” and “determining a cumulative forecasted production value for each future time window” to enable determination of the estimated lean buffer stock value, as recited in Claim 1 as amended.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987); M.P.E.P. § 2131. In addition, "[t]he elements must be arranged as required by the claim." *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989); *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990); M.P.E.P. § 2131. As illustrated above, *Salvo* clearly fails to disclose, either expressly or inherently, each and every limitation recited in Applicant's Claim 1, as is required under the M.P.E.P. and governing Federal Circuit cases.

For at least these reasons, Applicant submits that independent Claim 1 is patentable over *Salvo* for at least the reasons discussed above. Thus, Applicants respectfully request reconsideration and full allowance of Claim 1 and all claims depending therefrom.

Applicant submits that independent Claims 7 and 13 are patentable over *Salvo* for at least the same reasons discussed above with respect to independent Claim 1. Thus, Applicant respectfully requests reconsideration and full allowance of Claims 7 and 13 and all claims depending therefrom.

Acknowledged Allowable Subject Matter

Applicant notes with appreciation the Examiner's acknowledgement that Claims 19-21 contain allowable subject matter. Applicant has addressed the Examiner's rejections under 35 U.S.C. § 101 and 35 U.S.C. § 112, second paragraph. Applicant respectfully requests reconsideration and allowance of Claims 19-21.

Conclusion

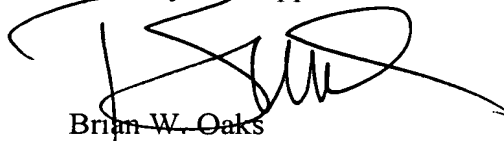
Applicant has made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, and for other reasons clearly apparent, Applicant respectfully requests reconsideration and full allowance of all pending claims.

If the Examiner believes a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact Christopher W. Kennerly, Attorney for Applicant, at the Examiner's convenience at (214) 953-6812.

Applicant has included a check for \$54.00 for three additional claims over twenty total and a check for \$110.00 for a one-month extension of time. Applicant believes that no other fees are due; however, the Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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